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ABSTRACT

This paper presents some research which makes use of the computer with a video disk player to do aesthetic analyses of the work of Vincent Van Gogh which can be used in art history slide lectures. It begins with discussions of a video disk system with IBM (International Business Machines) Infowindows and of several software systems. The paper presents only several possible uses of the computer with interactive videodisks for aesthetic analyses and creative efforts. It also presents the results of a pilot study undertaken in the 1990 semester to collect data relative to students' aesthetic preferences with a videodisk of the work of Vincent Van Gogh. It discusses how IBM's Handy software and authoring language might be employed to collect data and present interactive experimental treatments of research in empirical aesthetics. (9 references) (Author/DB)

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Use of IBM Infowindows Workstation For Aesthetic Preference Studies Two

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Abstract

This paper will present some research which makes use of the computer with a video disk player to do aesthetic analyses of the work of Vincent Van Gogh. The paper will consist of:

a. a discussion of video disk system with IBM Infowindows

b. a discussion of several software systems

This paper presents only several possible uses of the computer with interactive video disks for aesthetic analyses and creative efforts. It will also present the brief results of a pilot study undertaken in the 1990 semester to collect data relative to student's aesthetic preference with a video disk of the work of Vincent Van Gogh. It will discuss how IBM's Handy software and authoring language might be employed to collect data and present interactive experimental treatments of research in empirical aesthetics.

Background

Rapid developments in the use of the interactive video disk with a computer system make it possible for both the researcher in art history and aesthetics as well as the artist to have direct access by means of a computer to museum collections, exhibitions, and film presentations of the work of many artists. The following video disks are available for use with several computer software systems:

Vincent Van Gogh
The Helga Drawings
The National Gallery of Art
The Greek Vase (Getty Museum)
The Vermeer Forgeries (Carnegie Mellon University)
Albers Interaction of Color (Pratt Institute)
Work of Philip Pearlstein
The Louvre

Within several years there will be adequate resources for the researcher in art and the humanities to be able to analyze and manipulate a wide range of artistic images.

The Vermeer Forgeries Disk was developed by Robert Cavalier and David Carrier of Carnegie Mellon University (Cavalier and Carrier, 1988) (Cavalier, 1988). The disk forces a student to make aesthetic judgements and discriminations about an artist's style and how one can make judgements about a real Vermeer work as different from a fake. The student play a detective game to discover for themselves differences between the real and the fake Vermeer painting.

The Greek Vase Disk was developed by J. Paul Getty Art Museum to introduce the museum visitor to Classical Greek Art and the subject of Greek Vases. To date it's use has been restricted to the Getty Museum.

The National Gallery Disk was developed by the museum education department of the National Gallery of Art in Washington, D.C. as a means of introduction and orientation to the museum collection. This writer has used the disk to create aesthetic analyses of various works which have been photographed and then used for design history lectures. A graduate student designed and prepared a unit of study on Picasso and Cubism and on Degas and Impressionism from the National Gallery Disk (Wang, 1988).

The Albers Disk has been prepared by the design department of Pratt Institute to teach color theory. These are some of the current uses of the art video disks that are now on the education market.

Method

An IBM Infowindows computer is used with a video disk player. The computer has three working levels. Level one is the touch screen which can be used to input decisions and choices. Level two is the main graphics or paint package level upon which, by use of an IBM mouse system, the aesthetic or creative analysis can be introduced. Level three is the level upon which the image from the video disk is displayed. By the use of a see through color program one can access either the whole image or part of the disk image. By the use of a printer one can save a series of images which constitute the design or aesthetic analysis protocols.

In this system the video disk image is not digitized but one works on several levels or layers which are displayed one over the other on the computer screen. A current project by this writer is to use the video disk of the Helga Drawings with an IBM authoring language called HANDY. This language permits the user to have an easy access to the video disk. Included in this specific project is the dual use of the HANDY software as both a means of data collecting for an aesthetic, preference study and as a

means of giving the student information about the art work. It can be designed as a pre and post test situation with the specific treatment (in this case) information about art. The HANDY software permits easy storage of responses and the total data can be transferred to an ANSI File.

A complete IBM Infowindows workstation consists of an IBM PS/2 Model 60 computer, a special infowindows monitor, a Pioneer 6000 video disk player, and a dot matrix printer. A hard disk, graphics card, mouse, etc. are necessary to complete a graphic design and analysis workstation.

Van Gogh Project

We are currently using the Van Gogh disk to create a series of aesthetic analyses which can be used in art history slide lectures. For this project we are using a graphics package and Pilot as an access language to the video disk image. To date this program has been designed to be interactive.

Example: **Van Gogh's - "Road to Auvers"**

We begin with a linear analysis of the basic shapes in the painting. This linear analysis achieves two results, one is to demonstrate the linear quality of the work and two to establish boundaries within which can be used as a variety of fill-in procedures in the graphics package.

(Insert Photo One Here)

In the case of Van Gogh, we then begin to fill-in much of the figure or the background areas with flat colors and textures. This demonstrates the basic power of the shapes which Vincent developed in all of his works. What is interesting is the linear paint texture which one so often ascribed to Van Gogh does not seem to be the key element in his work, rather it is the power of the shapes themselves. The color fill aspects of the graphics software packages allow one to isolate the line and the shape of the paintings as quite separate from both color and paint texture (McWhinnie & Wang, 1988).

(Insert Photo Two Here)

Example: **Van Gogh's - Cow & Cart**

This specific research focuses with the analysis of the work of Vincent Van Gogh was to concentrate upon the line and shape qualities in Vincent's work without the color and texture variables. The results have shown rather dramatically that the aesthetic element of shape is far more characteristic of Van Gogh's work than was realized. No matter how hard one attempts to eliminate almost all traces of Vincent's color and texture, the shapes remain to give the ever-presence of the Van Gogh touch.

Example: **Van Gogh's - "Woman at Auvers II"**

(Insert Photo Three Here)

In this example the students explore a variety of shapes which have been based on the Van Gogh work. Students have been able to learn how to do these formalistic analysis of the works in about an hour of hands on computer time.

Creative Products

In addition to providing an aesthetic analyses of various aspects of Van Gogh's work, we also use the system to create a series of images which while related to the Van Gogh originals, are also done for a purely creative product. Slides are made of the computer screen which superimposes a students creative work on top of the Van Gogh originals. We then use these slides as resources from which I am able to do drawings, prints, a painting, by a system of drawings from the projective image.

The problem of hard copies with video disk is a critical one. The images from the video disk can only be displayed on the monitor, they cannot be printed nor digitized and directly be manipulated

in the computer environment that I use. One needs to work with the three levels on the IBM system. Photographs made of the screen are the easiest method to superimpose one level upon another and produce a result.

One can also demonstrate color effects when you change the background or foreground colors in the paintings. The analysis of the use of color in works of art and design can be enhanced by the use of the computer. This brings up the educational aspects of the interactive video disk environment. Students can be almost all traces of Vincent's color and texture, the shapes remain to give the ever-presence of the Van Gogh touch.

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One can also demonstrate color effects when you change the background or foreground colors in the paintings. The analysis of the use of color in works of art and design can be enhanced by the use of the computer. This brings up the educational aspects of the interactive video disk environment. Students can be shown what happens to the visual images when colors are changed and manipulated. The interactive video disk provides a powerful as well as flexible method of visual arts research and teaching in art and design.

Handy Authoring System as a Means for Data Collection

In the fall of 1989 and spring of 1990 we began several projects which made use of IBM Handy as an authoring system for data collection in a study of aesthetic preference with the Van Gogh video disk.

In the fall of 1989 24 students from a design history course participated in a one hour learning experiment that involved the use of the Handy program to collect aesthetic preference data. Fourteen paintings were selected as a pre-test (same items repeated for the post test) and the student recorded their preferences on a five point likert scale of 1 (don't like) to 5 (like very much). The Handy software enables the collection of data by keyboard input or by use of a touch screen format.

The students were then presented an informational segment from the Van Gogh video disk. After the informational sequence of about one hour, they were given the preference test again as a post-test.

(Insert Table One Here)

There were no significant differences between mean pre and post test preference test scales. As a part of the data collection we also collected data relative to the time spent looking at each work before making the preference decision. We found that there were very significant differences between pre and post test time spent. The post test mean scores were significantly lower then the pre-test scores and it would appear that the use of the interactive video disk reduced the amount of time needed for a decision.

(Insert Table Two Here)

The findings from our pilot study data does seem to raise serious questions about the use of a video disk technology with computer input in those specific areas in which one would wish to have a student spend more time on a task. Does the computer environment itself encourage a student to work faster, to try to keep up with the speed of the machine? If this is so, then in some fields, such as the arts, the use of interactive video disk may in fact be counterproductive. These questions which are critical to the use of the electronic media for instruction in the arts has to be addressed in future studies.

General Conclusions:

How one learns information in a machine-mediated environment as well as how the machine itself becomes a key variable in the process seems to be an essential question in the arts in which the use of the interactive video disk has become a popular new technology. Our use of the Infowindows Workstation in this study did demonstrate that it can serve as a very flexible data collecting workstation and does make it possible to manage a number of individual learning experiments with economy and efficiency.

References

Berstein, Saul. (1987). Computer Graphic Art, Rembold Press, NY.

Carrier, David. (Fall, 1989). "Teaching of Art History," Leonardo.

Carrier, David and Cavalier, Robert. (1988). Manual for Intro. Disk Project, Carnegie Mellon.

McWhinnie, H. J. (Fall, 1988). "An analysis of selected graphs software: Technology Update," Computer Graphics.

McWhinnie, H. J. (Fall, 1989). "The electronic image: Abstraction vs. simulation," Leonardo.

McWhinnie, H. J. (Fall, 1988). "The electronic sketchbook," Computers and Graphics.

McWhinnie, H. J. and Wang, Clair. "Use of Video Disk in DBAE," Conference Report.

McWhinnie, H. J. (1986). "Use of computers in art education," Viewpoints.

Wang, Clair. (1989). "Computers and Art Education," Unpublished MA Thesis, University of Maryland.

Table One

T Test Analysis for Van Gogh Preferences
(Fall 1990)

	Means	S.D.	T Value	DF	P
Preference Totals I					
Pre	40.08	5.46	-.04	23	.96
Post	40.12	5.28			
Preference Totals II					
Pre	30.03	4.65	-1.31	25	.20
Post	31.03	4.38			

Preference test items 14 possible score 70
low score 14

Pre and post test differences was not significant at the .05 level.

Table Two

Response Time for Van Gogh Preferences

	Means	S.D.	T Value	DF	P Value
Pre-Test	214.57	67.64	5.14	13	.001
Post-Test	134.85	37.33			

(Time in seconds)

There were highly signficant mean differences between pre and post test scores. The response time was assessed in seconds and measured by the computer in terms of elapsed time between presentation of image from video disk and the point of the subjects register of preferences.

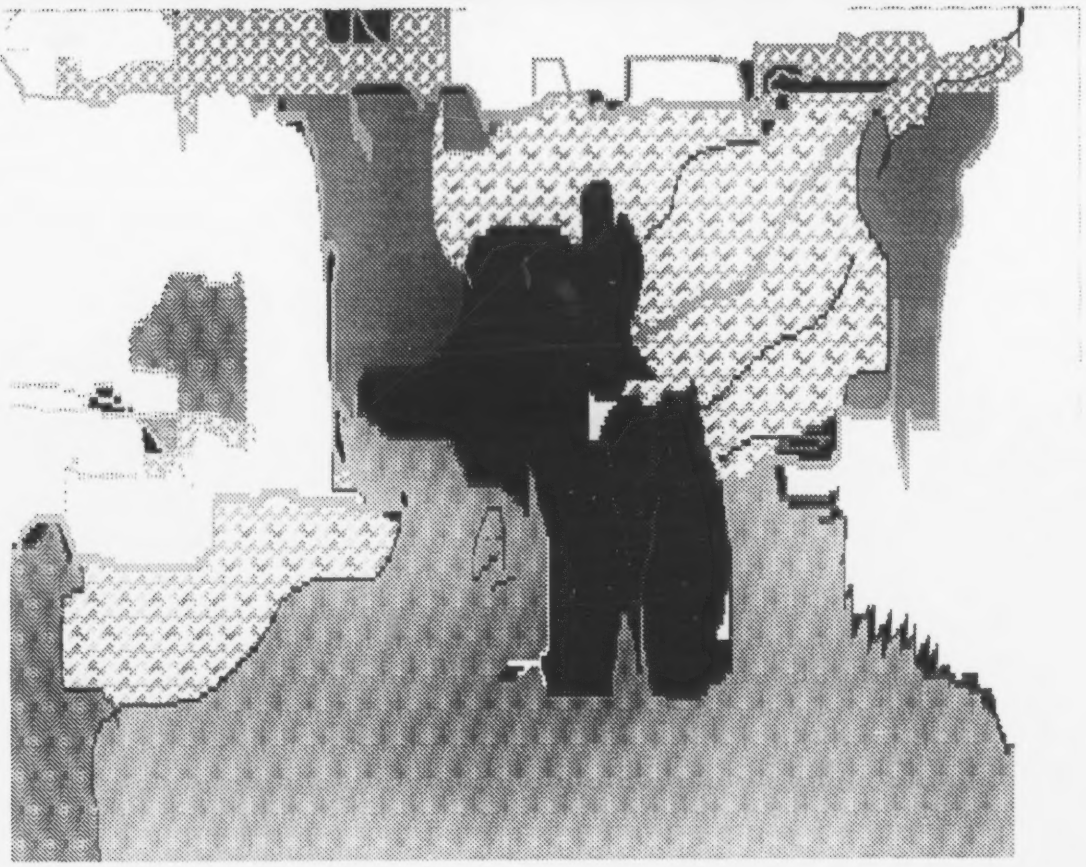

PHOTO ONE

Van Gogh

"Road to Auvers"

1890

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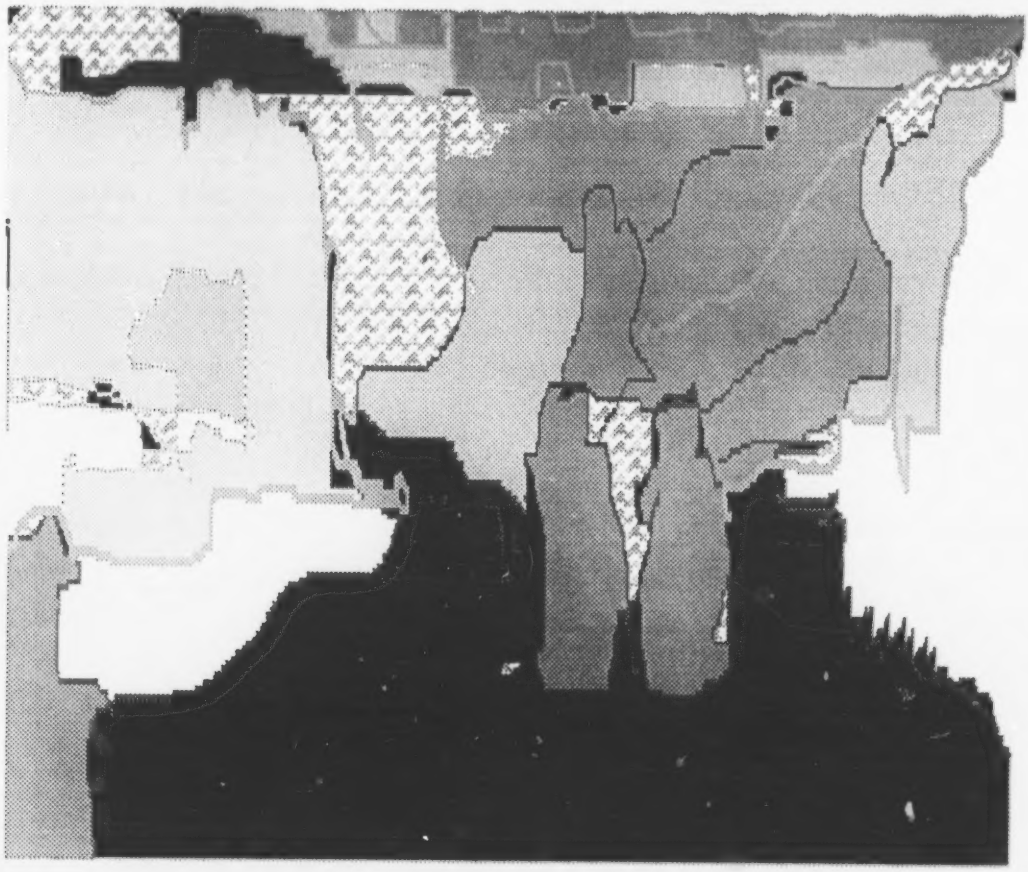

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PHOTO TWO

Van Gogh

"Road to Auvers"

1890

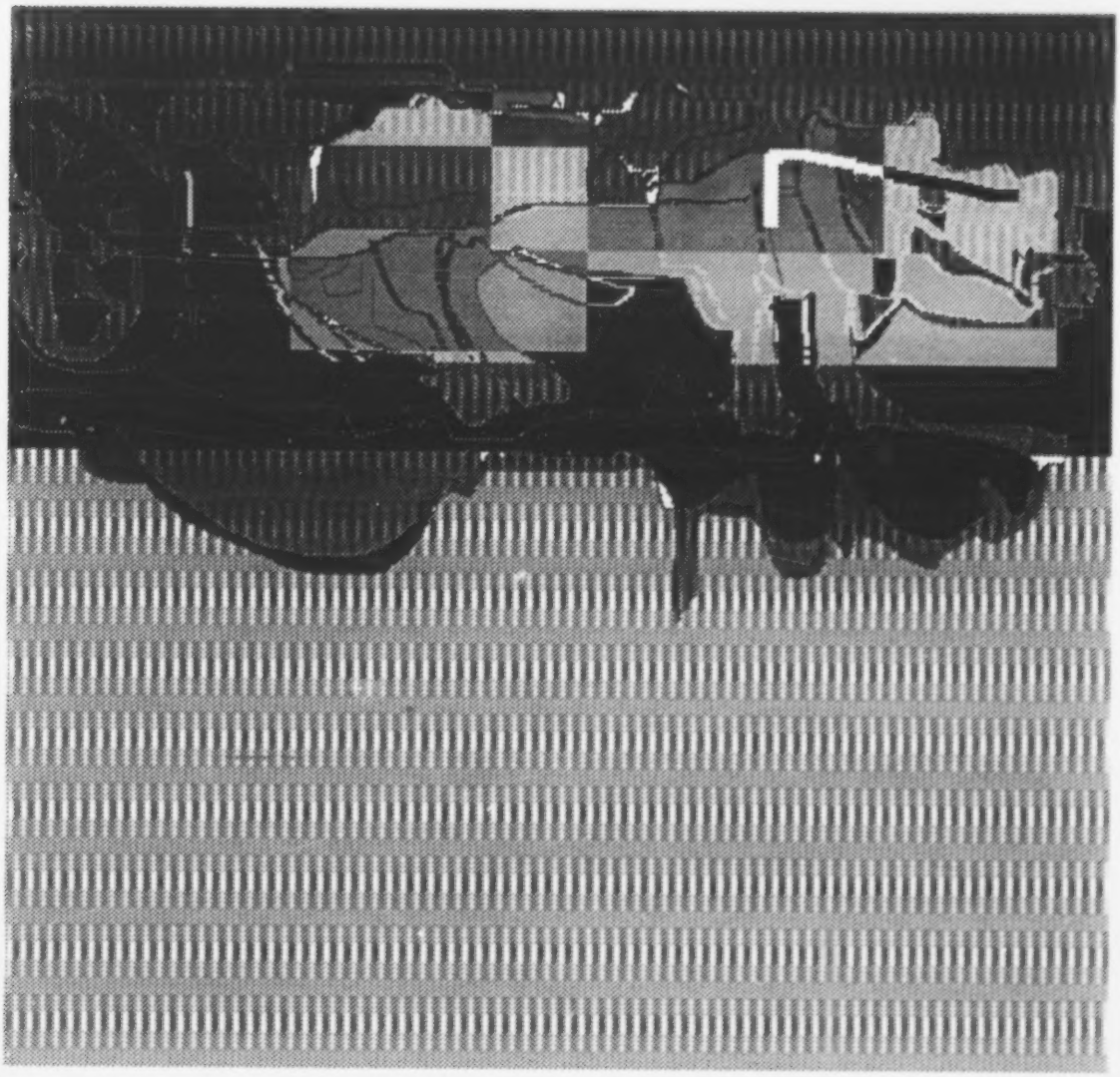

PHOTO THREE

Van Gogh

"Cow and Cart"

1884

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